

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A rubber kneading machine comprising:

two horizontal rolls, including an upper roll and a lower roll, disposed vertically close to each other through ~~[[the]]~~ an intermediary of an adjusting device for allowing ~~[[the]]~~ a gap between ~~[[an]]~~ the upper roll and ~~[[a]]~~ the lower roll to be freely adjusted~~[[,]]~~;

~~rotatively~~ driving means for rotating the rolls~~[[, and]]~~;

a screw extruder ~~for supplying~~ including a screw extruder main body having screws and configured to supply a rubber lump fed into a hopper at a proximal end to the rolls; ~~wherein;~~

a circulating mechanism for kneading and mixing rubber that is formed by feeding a rubber sheet that has left the rolls to the hopper, the circulating mechanism is constructed of a winding control means for selectively winding the rubber sheet onto the upper roll by differentiating ~~[[the]]~~ rotational speeds of the upper and lower rolls by a variable speed motor or a decelerator, and ~~[[a]]~~ carrying means for sending the rubber sheet coming off the upper roll to the hopper;

an extrusion cylinder accommodating the screws, the extrusion cylinder is configured to be attached to and detached from the screw extruder main body and a driving mechanism thereof;

roll frames configured to support the upper and lower rolls and a distal end of the extrusion cylinder and configured to be removable; and

the driving mechanism configured to drive the roll frames and the extrusion cylinder toward or away from each other and to drive the extrusion cylinder and the screw extruder main body toward or away from each other.

Claim 2 (Original): The rubber kneading machine according to Claim 1, wherein the carrying means is a conveyor.

Claim 3 (Currently Amended): The rubber kneading machine according to Claim 2, wherein a belt conveyor is hung over the upper roll so as to guide ~~[[a]]~~ the rubber sheet from the ~~rubber~~ rolls onto the belt conveyor to feed ~~[[it]]~~ the rubber sheet to the hopper.

Claim 4 (Currently Amended): The rubber kneading machine according to Claim 1, wherein the carrying means has a scraper, which is in contact with the upper roll at an upper level of the upper roll, peels a rubber sheet wound thereon, and then guides ~~[[it]]~~ the rubber sheet to the hopper.

Claim 5 (Currently Amended): The rubber kneading machine according to Claim 1, wherein the carrying means is constructed of a scraper that is in contact with the upper roll at an upper portion thereof to peel off ~~[[a]]~~ the rubber sheet wound thereon, and a conveyor for feeding the rubber sheet peeled by the scraper to the hopper.

Claim 6 (Currently Amended): The rubber kneading machine according to Claim 1, wherein

the screw extruder comprises two tapered screws that mesh each other and rotate, and an extrusion cylinder accommodating ~~[[them]]~~ the two tapered screws, and

~~wherein~~ the extrusion cylinder has an elliptical or gourd-shaped section and is tapered in ~~[[its]]~~ an axial direction.

Claim 7 (Currently Amended): The rubber kneading machine according to Claim 1,
~~wherein~~ further comprising:

a horizontal rubber fall preventing plate in contact with the lower roll ~~is~~ provided
between the upper and lower rolls and ~~[[the]]~~ a distal end of a collet of the screw
extruder~~[[,]]~~;

walls ~~[[are]]~~ vertically provided on both sides of the rubber fall preventing plate so
that the interval therebetween can be set freely~~[[,]]~~;

~~[[the]]~~ a space formed between the walls ~~[[is]]~~ configured to be used as a rubber
reservoir~~[[,]]~~; and

a detector for detecting ~~[[the]]~~ an amount of accumulated rubber ~~[[is]]~~ provided at an
upper level of the rubber reservoir, ~~[[and]]~~

~~the numbers wherein a number~~ of revolutions of the screws ~~[[are]]~~ is adjustable on the
basis of the amount of accumulated rubber detected by the detector.

Claim 8 (Currently Amended): The rubber kneading machine according to Claim 1,
~~wherein~~ further comprising:

a horizontal rubber fall preventing plate in contact with the lower roll ~~[[is]]~~ provided
between the upper and lower rolls and ~~[[the]]~~ a distal end of a collet of the screw
extruder~~[[,]]~~;

~~[[the]]~~ a space, formed by vertically installing walls on both sides of the rubber fall
preventing plate ~~[[is]]~~, configured to be used as a rubber compression passage~~[[,]]~~; and

a rotative plate for setting ~~[[the]]~~ a sectional area of the rubber compression passage is
provided at an upper level of the space such that ~~[[it]]~~ the rotative plate is in contact with the
walls on both sides and ~~[[it's]]~~ a position of the rotative plate is vertically adjustable so as to
form a rubber lump into a sheet to be supplied to the rolls by the rotative plate.

Claim 9 (Currently Amended): The rubber kneading machine according to Claim 8,
~~wherein~~ further comprising:

[[the]] a rubber reservoir formed at [[the]] an outlet side of the rotative plate [[is]]
~~provided with~~ including a detector for detecting [[the]] an amount of rubber in the rubber
reservoir, and

~~the numbers~~ a number of revolutions of the screws [[are]] is made adjustable on the
basis of the amount of rubber in the reservoir detected by the detector so as to permit banking
of rubber in the space.

Claim 10 (Original): The rubber kneading machine according to Claim 9, wherein the
detector comprises a lifting plate rotatively retained above the rubber reservoir by a hinge,
and a rotational angle of the lifting plate is detected by a sensor so as to detect the amount of
rubber in the reservoir.

Claim 11 (Canceled).

Claim 12 (Currently Amended): The rubber kneading machine according to Claim
[[11]] 1, ~~wherein~~ further comprising:

clamps for removably fastening the extrusion cylinder to the roll frames and the screw
extruder main body ~~are provided, and~~

wherein the driving mechanism is driven in a direction for moving the roll frames and
the screw extruder main body toward or away from each other.

Claim 13 (Currently Amended): The rubber kneading machine according to Claim [[11]] 1, wherein

the screw extruder main body and a direct acting machine constituting the driving mechanism are disposed on a base,

the roll frames are fixed on a carriage connected to the direct acting machine, and

the extrusion cylinder is supported on the carriage such that [[it]] the extrusion cylinder can be moved in a direction in which the roll frames are moved.

Claim 14 (Currently Amended): The rubber kneading machine according to Claim 1, wherein, further comprising:

at [[the]] a rubber outlet side of the upper roll, a retaining seat for a cutter ~~that is~~ configured to be pressed into contact with the upper roll and slidable with respect to ~~the roll~~ a surface of the upper roll so as to cut rubber in a direction parallel to a roll axis.

Claim 15 (New): A rubber kneading machine, comprising:

an upper roll and a lower roll;

adjusting device configured to allow a gap between the upper roll and the lower roll to be adjusted;

a driving device configured to rotate the upper roll and the lower roll;

a screw extruder including a screw extruder main body having screws and configured to supply rubber to the rolls;

a circulating mechanism including

a winding control mechanism configured to selectively wind the rubber sheet onto the upper roll by differentiating rotational speeds of the upper roll and the lower roll, and

a carrying mechanism configured to send the rubber sheet coming off the upper roll to the hopper;

an extrusion cylinder accommodating the screws, and configured to be attached to and detached from the screw extruder main body and a driving mechanism thereof.

Claim 16 (New): The rubber kneading machine according to Claim 15, further comprising:

roll frames configured to support the upper roll and the lower roll and a distal end of the extrusion cylinder and configured to be removable.

Claim 17 (New): The rubber kneading machine according to Claim 16, wherein the driving mechanism is configured to drive the roll frames and the extrusion cylinder toward or away from each other and to drive the extrusion cylinder and the screw extruder main body toward or away from each other.